Exploring Teacher Responses to Student Perceptions of Digital Learning: Implications for Course Design

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Abstract

This paper examines the responses of teachers to student perceptions and experiences of digital learning, specifically focusing on the implications for course design. A series of studies was conducted in Norway and Sweden over a three-year period during and after the Covid-19 pandemic. The primary objective of this study is to explore teacher perceptions and experiences of digital learning, with a particular focus on four main groups of university lecturers. Qualitative methods, including focus groups and the review of quantitative data from a previous student study, were employed to collect the data. This paper aims to map teacher responses and identify evidence-based strategies for effective and responsive course design in higher education. The findings highlight the benefits of both on-campus and online settings, emphasizing the importance of flexibility, adaptability, and a student-centered approach in instructional design.

Keywords: *digital learning, course design, teacher perceptions, Technology Acceptance Model (TAM), affordances in Computer-Supported Collaborative Learning (CSCL)*

1. Introduction

This paper investigates how teachers respond to student perceptions and experiences of digital learning and explores the implications for course design. It is part of a series of studies conducted in Norway and Sweden over a three-year period during and after the Covid-19 pandemic [1], [2], [3]. This study focuses on teacher perceptions and experiences in digital learning, with respondents from four main groups of university lecturers. Qualitative methods, including focus groups and the review of quantitative data from a previous student study, were used to collect the data [3]. This paper aims to map teacher responses and identify evidence-based strategies for effective and responsive course design in higher education.

2. Theory

The study's theoretical framework draws on the Technology Acceptance Model (TAM) [4] and the concept of affordances in Computer-Supported Collaborative Learning (CSCL) [5]. The TAM explains user acceptance and adoption of technology based on *perceived usefulness* and *perceived ease of use*. *Perceived usefulness* refers to the user's belief that the technology enhances their performance, while *perceived ease of use* refers to the user's belief that using the technology requires minimal effort. CSCL *affordances* focus on the qualities of technology that facilitate or restrict collaborative learning activities, considering social and contextual factors in designing technology-enhanced learning environments. Understanding the social affordances of technology contributes to the development of effective collaborative learning environments.

3. Method

This study employed a qualitative approach, conducting multiple case studies with university lecturers. Data collection included focus groups and the review of quantitative data from a previous student study [3]. The lecturers were asked about their expectations of student answers, their responses to revealed preferences, and their own perceptions and experiences. The participants were university lecturers from four institutions in Norway and Sweden, teaching English courses to pre-service trainee teachers, science majors, in-service teachers, and foundational-year English students. They were asked to review a survey conducted on respondents including their own student groups [3]. Participants were given (1) questions from the survey and asked their expectations of student answers. They were then (2) shown the results and asked to respond. Finally, they were (3) asked for their own perceptions and experiences.

4. Results

4.1 Lectures

The study's findings on lectures indicate teacher expectations, responses, and perceptions regarding student preferences for different settings. Initially, most teachers anticipated campus-based lectures, valuing face-to-face interaction and physical learning environments. However, the study revealed diverse expectations for online or mixed approaches, indicating an awareness of student preferences and the need for instructional flexibility. Teacher responses varied, with some expressing surprise at student preferences, highlighting the importance of considering student perspectives and involving them in decision-making. Teachers also displayed openness to new approaches and adaptability to accommodate diverse student preferences.

Teachers' perceptions and experiences enriched the understanding of lecture settings. They emphasized the benefits of on-campus lectures, such as interaction and multitasking, while acknowledging the convenience and flexibility of online lectures. Recognizing the advantages of online lectures demonstrated a willingness to explore new modes of delivery. Individual student preferences and considerations like geographic location were deemed important for instructional strategies.

4.2 In-class group work

In terms of in-class group work, the majority of teachers expressed an expectation for campus-based or physical settings, valuing face-to-face interaction and the benefits of a physical learning environment. Teachers' perceptions and experiences highlighted the factors influencing their preferences for group work settings. Technical issues and limitations in online settings, such as microphone problems and limited interaction, were seen as barriers to effective communication. The campus setting was perceived to facilitate easier and more convenient communication, enhancing student engagement and participation.

Student characteristics and engagement also played a role in teacher preferences, with weaker students preferring the physical classroom environment for support and social interaction, while stronger students were viewed as more adaptable to both in-person and online group work. Flexibility emerged as an important consideration, with teachers recognizing its benefits in both in-person and online settings. Factors such as social relationships, different skill sets, and the time-consuming nature of online group work were taken into account.

4.3 Oral feedback from lecturers

The study's findings on oral feedback from lecturers offer valuable insights into teacher expectations, responses, and experiences regarding the settings in which students receive such feedback. The analysis revealed diverse perspectives among teachers, indicating the complexity of this topic. Some teachers anticipated campus-based interactions as the primary setting for oral feedback, while others expressed no significant difference in settings or even anticipated online settings to be more prevalent. Teacher responses to student preferences raised questions about the significance of students perceiving no difference in feedback between settings. Contrary to initial expectations, online settings received the highest preference for receiving oral feedback, challenging the assumption that campus-based interactions are more effective. The benefits of online feedback platforms, particularly in breakout rooms, were highlighted.

Teacher perceptions and experiences further revealed factors influencing their experiences with oral feedback. Challenges associated with providing feedback in breakout rooms during online sessions were highlighted, emphasizing the importance of better communication in physical classrooms. The limitations of online feedback, such as the inability to read body language, were recognized. However, online environments offered the convenience of quick messaging and easy setup of Zoom meetings for feedback purposes.

4.4 Oral feedback from students

In terms of oral feedback from students, teacher expectations varied, with some anticipating no significant difference in feedback settings, while others expected a balance between campus and online settings. The preference for physical settings expressed by several teachers reflects their belief in the value of face-to-face interactions and in-person communication for receiving oral feedback. However, teachers also acknowledged the potential of online settings, particularly through breakout rooms, to facilitate oral feedback. Regarding teacher responses to student preferences, some teachers found the distribution of preferences between campus and online settings reasonable and aligned with their expectations. The presence of a significant percentage of students perceiving no difference in feedback between settings was seen as encouraging, indicating similar levels of oral feedback regardless of setting.

Teacher perceptions and experiences indicate factors influencing the occurrence and preferences for oral feedback. Technical issues in online settings were identified as a barrier to

language production and feedback. The physical classroom setting was observed to facilitate more language production and oral feedback, although teachers recognized the impact of student reluctance and anxiety. The social aspect of the learning environment played a significant role, as campus settings naturally facilitated more social interaction and oral feedback.

4.5 Out-of-class group work

The study's results on out-of-class group work indicate factors influencing teacher preferences for different settings. Teachers anticipated different preferences for settings, with some expecting a preference for online settings due to convenience and reduced logistical challenges, while others anticipated a preference for physical settings, emphasizing face-to-face interaction and in-person collaboration. Student responses indicated a significant proportion preferred a mix of both settings, highlighting the advantages of flexibility, accessibility, and reduced logistical challenges of online collaboration, as well as the value of in-person interactions, dynamic discussions, and stronger interpersonal connections. Teacher responses varied, with some expressing surprise at the limited significance of convenience as a factor, while others anticipated the distribution of preferences. The importance of building a sense of community through physical interactions and the speculation that preferences for mixed settings might relate to time spent in each setting offered additional insights.

Teacher perceptions and experiences highlighted the significance of flexibility and convenience in determining preferred settings. Challenges associated with different settings were acknowledged, such as explaining certain subjects and managing activities. The value of social connection in in-person interactions and the practicality of online group work for efficiency were recognized. The lack of consensus among teachers and the variability of preferences among student groups emphasize the importance of individual contexts. The organization and structure of activities, time management, and the skillset required for effective online collaboration were identified as influencing factors.

5. Discussion

The results of the study provide insights into the interplay between teacher expectations of , responses to, and perceptions regarding different learning settings, including lectures, in-class group work, oral feedback from lecturers, and oral feedback from students. These findings can be discussed in light of the theoretical framework that informed the study, which includes the Technology Acceptance Model (TAM) and the concept of affordances in Computer-Supported Collaborative Learning (CSCL) [4], [5].

The results regarding lecture settings align with the TAM framework, as teachers recognized the perceived usefulness of on-campus lectures in terms of face-to-face interaction and physical learning environments. However, the study also revealed the importance of perceived ease of use, as teachers acknowledged the convenience and flexibility of online lectures.

The findings related to in-class group work and oral feedback from students support the CSCL perspective [5]. Teachers recognized the benefits of face-to-face interaction and physical classrooms for in-class group work and oral feedback. However, they also acknowledged the affordances of online settings, such as breakout rooms and chat functions, in facilitating engagement and discussion. This highlights the importance of considering social and contextual factors in designing technology-enhanced learning environments.

Overall, the results demonstrate the significance of the TAM and CSCL frameworks in understanding teacher expectations, responses, and perceptions regarding different learning settings. The findings emphasize the need for flexibility, adaptability, and a student-centered approach in instructional design. By considering the perceived usefulness and ease of use of different settings and leveraging the affordances of technology, educators can create effective and responsive learning environments that meet the diverse needs of students.

6. Conclusion

In conclusion, this conference paper investigated teacher responses to student perceptions and experiences of digital learning, focusing on course design implications. The findings highlight the interplay between teacher expectations, responses to student preferences, and perceptions of different learning settings. Teachers recognized the benefits of both on-campus and online settings, emphasizing the importance of flexibility, adaptability, and a student-centered approach in instructional design. The study underscores the need to consider perceived usefulness, ease of use, and the social and contextual factors of technology in creating effective and responsive learning environments. By incorporating these insights, educators can optimize course design and enhance student learning experiences in higher education.

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